

## Document Log Item

Addressing	
<b>From</b>	<b>To</b>
Adam Freedman/R9/USEPA/US	<Damonica.Pierson@Shell.com> <Damonica.Pierson@Shell.com>
<b>CC</b>	<b>BCC</b>
George Robin/R9/USEPA/US@EPA	
<b>Description</b> Form Used: Reply	
<b>Subject</b>	<b>Date/Time</b>
RE: C6 CCS Plugging & Abandonment Plans	03/26/2010 11:56 AM
<b># of Attachments</b>	<b>Total Bytes</b>
2	161,602
<b>NPM</b>	<b>Contributor</b>
<b>Processing</b>	
<b>Comments</b>	

Body

### Document Body

Damonica,  
We were a bit confused about the revised P&A plan. It currently reads (for temporary and permanent abandonments):

5. Set a cement retainer above the perforated zone and squeeze off perforations with cement. Pressure test perforations and confirm closure/seal of the perforations.
6. Run in well open-ended and place a cement plug cross the perforation area to ensure that all flow paths are closed off. The cement plug will extend at least 25 feet below the lowermost perforation and 200 feet above the top-most perforation.

Could you please clarify whether it is possible to run both of these steps or whether they should be modified and combined? If these steps are written correctly, could you please provide a bit more detail about how they will work in tandem? Thank you very much.

Adam Freedman  
Environmental Scientist, Underground Injection Control  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street (WTR-9)  
San Francisco, CA 94105-3901  
415.972.3845  
freedman.adam@epa.gov

---03/24/2010 07:28:33 AM---Adam and George, I have attached a revised drawing that incorporates the suggestions that you have r

From: <Damonica.Pierson@Shell.com>  
To: Adam Freedman/R9/USEPA/US@EPA, <freedman.adam@gmail.com>  
Cc: George Robin/R9/USEPA/US@EPA  
Date: 03/24/2010 07:28 AM  
Subject: RE: C6 CCS Plugging & Abandonment Plans

---

Adam and George, I have attached a revised drawing that incorporates the suggestions that you have requested below. The accompanying well abandonment text in Appendix Q has been updated as well.

-----Original Message-----

**From:** Freedman.Adam@epamail.epa.gov [mailto:Freedman.Adam@epamail.epa.gov]

**Sent:** Wednesday, February 24, 2010 6:50 PM

**To:** Pierson, Damonica M SEPCO-SWE

**Cc:** Robin.George@epamail.epa.gov

**Subject:** RE: C6 CCS Plugging & Abandonment Plans

Damonica,

We have had some time to review Shell's Plugging and Abandonment plans and have a few comments. Please resubmit the schematics after incorporating these modifications:

- 1) The cement plug (#8) must be at least 200 feet long.
- 2) The cement plug (#6) should cover the perforations and should be at least (top of cement) 200 feet above the top perforation.
- 3) Please confirm that the "kill mud" (#7) is consistent with the qualities and properties required by Ca DOGGR (viscosity, weight/density, gel strength, etc.).
- 4) The base of the USDW must also have a 200 foot cement plug (this may be the same as the plug at the base of the surface casing set at 3,000 ft).
- 5) Plug #9 should also be 200 ft thick and up to the casing cut-off point (or as close as practical).

If you have any further questions, please feel free to be in touch. Thank you.

Adam Freedman  
Environmental Scientist, Underground Injection Control  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street (WTR-9)  
San Francisco, CA 94105-3901  
415.972.3845  
freedman.adam@epa.gov

From: <Damonica.Pierson@Shell.com>  
To: Adam Freedman/R9/USEPA/US@EPA  
Cc: George Robin/R9/USEPA/US@EPA  
Date: 02/17/2010 10:00 AM  
Subject: RE: C6 CCS Plugging & Abandonment Plans

Adam and George, attached below is a schematic that visually represents the temporary and permanent P&A for the injection well. There is a note on the drawing that indicates similar P&A procedures for the monitoring well. Realizing that you originally requested two separate drawings, let me know if this will suffice.

-----Original Message-----

**From:** Freedman.Adam@epamail.epa.gov [<mailto:Freedman.Adam@epamail.epa.gov>]

**Sent:** Tuesday, February 09, 2010 6:18 PM

**To:** Pierson, Damonica M SEPCO-SWE

**Cc:** robin.george@epa.gov

**Subject:** C6 CCS Plugging & Abandonment Plans

Damonica,

In Attachment Q of your permit application, C6 describes their general plugging and abandonment (P&A) plans. I am requesting that C6 submit schematics (similar to Figure M-1) that will complement that written description. The schematics should visually represent both the temporary and permanent P&A plans as submitted (two separate schematics should be prepared), showing where the cement plugs will be, where mud will be used, an accurate portrayal of the wells after any of the temporarily installed monitoring equipment is removed, and the depths of relevant geologic formations. For guidance, on this website (<http://www.epa.gov/region09/water/groundwater/uic-permits.html#lapaloma>) click on the Final Permit for La Paloma Generating Company and see Figures 9a and 9b. If you have any questions, please feel free to contact me. Thank you.

Adam Freedman  
Environmental Scientist, Underground Injection Control  
U.S. Environmental Protection Agency, Region 9

75 Hawthorne Street (WTR-9)  
San Francisco, CA 94105-3901  
415.972.3845

freedman.adam@epa.gov [attachment "TA\_PA well schematic Injection Well.ppt" deleted by  
Adam Freedman/R9/USEPA/US]



TA\_PA well schematic Injection Well rev 3\_23\_2010.ppt   Rev\_Att Q PLUGGING AND ABANDONMENT PLAN-3-10.doc